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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,168	10/04/2004	Yoshinari Koyama	HEIW:039	6864
27890	7590	06/24/2005		
STEPTOE & JOHNSON LLP 1330 CONNECTICUT AVENUE, N.W. WASHINGTON, DC 20036			EXAMINER BOYKIN, TERRESSA M	
			ART UNIT	PAPER NUMBER
			1711	
DATE MAILED: 06/24/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/510,168

Applicant(s)

KOYAMA, YOSHINARI

Examiner

Terressa M. Boykin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10-4-05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

PCT National stage application

In accord with MPEP 609 II which states that "The examiner will consider the documents cited in the international search report in a PCT National stage application when the Form PCT/DO/EO/903 indicates that both the international search report and the copies of the documents are present in the national stage file." Since such is the case in this instance, the documents from the international search report, have been considered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims are rejected under 35 U.S.C. 102(b) as being anticipated by USP 5898061 abstract, col 2 line 12 through col. 5 line 41,ccol. 8 lines 38 through col. line 38, col. 15 and claims 4-7.

USP 5898061 discloses a method for producing polyarylene sulfide continuously, comprising; 1) polymerization step wherein polyarylene sulfide is polymerized from a sulfur compound in the liquid or gas state and a dihalogenated aromatic compound in non-protonic organic solvent, 2) separation step wherein mixture of the polymerization

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solution and the washing solution is separated into the polymer phase and the solvent phase, and in said separation step said polymer phase is continuously taken out in the liquid state. The method of this invention makes it possible to produce polyarylene sulfide of high purity that it is suitable for molding and injection molding of the seat, the film, the fiber, etc. for the electronic and electric material field etc., with high-molecular-weight and low content of by-products, efficiently and economically.

The reference notes that the purity of the resulting PAS may be decreased depending on the succeeding operations. If the amount of the hydroxide ion used is less than 0.9 mol, on the other hand, there is a possibility that lithium is left dissolved as chloride, inducing loss of lithium.

In addition, the reference notes that it is preferable to take out the polymer phase continuously in the liquid state detecting the interfacial point between the polymer phase and the solvent phase using a liquid level indicator when continuous production of PAS is carried out according to this invention. Further, it is preferable to detect the interfacial point between the polymer phase and the solvent phase by measuring the electric conductivity of said polymer phase and the solvent phase both at plurality of points in carrying out continuous production of PAS according to this invention. Another preferred embodiment involves detecting and separating the phases using a liquid level meter which can detect the interface of the two phases, such as an impedance potentiometer-type level meter, while removing the polymer phase and the solvent phase from the separator. In that case, it is desirable to adjust the total amounts of the polymer phase and the solvent phase to be removed equivalent to the amount of the feed supplied to the washing-separation tank. A typical example of such a washing-separation tank has a structure which is long in the vertical direction with a feeding port in the middle of the

tank from which the polymer solution is gently fed, while the polymer is removed from the lower part of the tank.

FIG. 1 is a diagram schematically showing the principle for detecting the interface of the impedance potentiometer-type liquid level meter used in the example of the present invention.

With regard to anti-corrosion properties, the reference discloses that by controlling the concentration of lithium chloride in PAS in this way, problems such as decrease in insulation effect and metallic corrosion can be remarkably decreased even if it is applied to electric/electronic field which is the main field of said PAS.

Thus, there appears to be no significant difference between the reference and that which is claimed by applicant(s). Any differences not specifically mentioned appear to be conventional. Consequently, the claimed invention cannot be deemed as novel and accordingly is unpatentable.

Priority

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1,8,9,10,11 are rejected under 35 U.S.C. 102(e) as being anticipated by USPub 20030027943 see abstract, pages 2-4 and claim 1; or US 20020128372 see pages 1-4.

USPub 20030027943 discloses a method of purifying a polyarylene sulfide by washing it with a mixture of an aprotic organic solvent and an alkyl halide, or with a mixture prepared by adding a halogenoaromatic compound having an electron-withdrawing group to an aprotic organic solvent. The method makes it possible to reduce the impurities such as alkali metal halides in polyarylene sulfide, thus giving thermally stable polyarylene sulfide. Note claim 1 of the resin discloses that the crux of the reference is that when a polyarylene sulfide is added to a solvent N-methyl-2-pyrrolidone of the same quantity (by mass) and kept at 265.degree. C. for 8 hours, the reduction in its intrinsic viscosity [η] at 206.degree. C. is at most 0.05 dl/g., the purity of the polyarylene sulfide is high. Note also that within the reference the viscosity is measure to insure this. Consequently, as written, applicants' claims 1,8,9,10,11 are not specific and thus are anticipated by the reference.

US 20020128372 discloses a process for making a polyarylene sulfide, polyarylene sulfide resin composition, a method for producing polyarylene sulfide. It is noted therein that the polymer formed may be subjected to any ordinary post-treatment. For example, the reaction system containing the polymer formed is cooled,

and the precipitate formed therein is taken out through centrifugation, filtration or the like, and the thus-separated polymer is washed a few times with an organic solvent or water under heat or at room temperature to purify it. For washing it, the polymer may be solid or may be liquid. For the latter, the liquid polymer may be washed in melt. On page 6 of the reference it is noted that the inherent viscosity is measured post polymer production.

It is noted that claims 1, 8, 9, 10, 11 are broadly claimed and nonspecific as to how the viscosity and/density being measured is related to the purification of the polymer. As written the claims is not limited to the purification of the polymer being *directly* related to the measuring of the viscosity or density. Thus, there appears to be no significant difference between the references and that which is claimed by applicant(s). Any differences not specifically mentioned appear to be conventional. Consequently, the claimed invention cannot be deemed as novel and accordingly is unpatentable.

Correspondence

Please note that the cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants may be referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Terressa Boykin whose telephone number is


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571 272-1069. The examiner can normally be reached on Monday through Friday from 6:30am to 3:00pm.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The general information number for listings of personnel is (571-272-1700).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tmb


Examiner Terressa Boykin
Primary Examiner
Art Unit 1711